

# NPort IA5000 系列

用於工業自動化的 1 埠和 2 埠串列設備伺服器



## 特色與優點

- 通訊端模式：TCP server、TCP client、UDP
- 用於 2 線和 4 線 RS-485 的 ADDC (自動資料導向控制)
- 輕鬆佈線的串聯乙太網路埠 (僅適用於 RJ45 連接器)
- 備援直流電源輸入
- 透過繼電器輸出和電子郵件發出警告和警報
- 10/100BaseTX (RJ45) 或 100BaseFX (單模或多模，配備 SC 連接器)
- IP30 防護等級外殼

## 認證

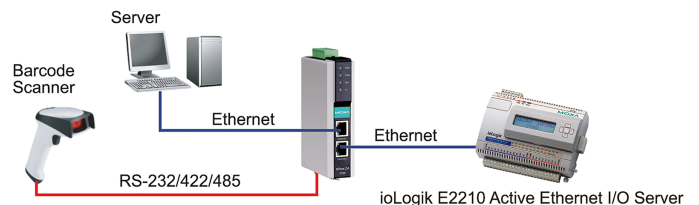


## 簡介

NPort® IA 設備伺服器為工業自動化應用提供簡單可靠的串列到乙太網路連接。設備伺服器可以將任何串列設備連接到乙太網路，為了確保與網路軟體的相容性，設備伺服器支援多種連接埠操作模式，包括 TCP 伺服器、TCP 用戶端和 UDP。NPort® IA 設備伺服器具備高度可靠性，是將 RS-232/422/485 串列設備 (如 PLC、感測器、儀表、馬達、驅動器、條碼讀取器及操作員顯示器) 連接至網路的理想選擇。所有型號均採用輕巧、堅固的外殼，可安裝在 DIN 軌道上。

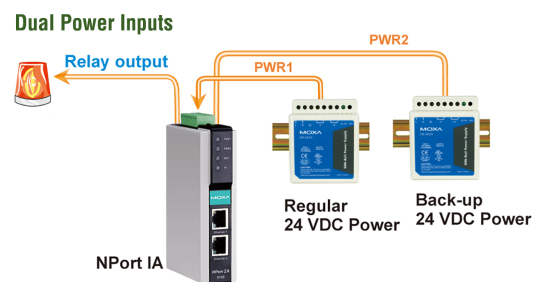
### 串聯乙太網路埠讓佈線更輕鬆 (10/100BaseTX 型號)

NPort® IA5150 和 IA5250 設備伺服器具有兩個乙太網路埠，可作為乙太網路交換器連接埠。一個連接埠直接連接到網路或伺服器，另一個連接埠可以連接到另一個 NPort® IA 設備伺服器或乙太網路設備。雙乙太網路連接埠有助於降低佈線成本，因為無需將每個設備連接到個別的乙太網路交換器。



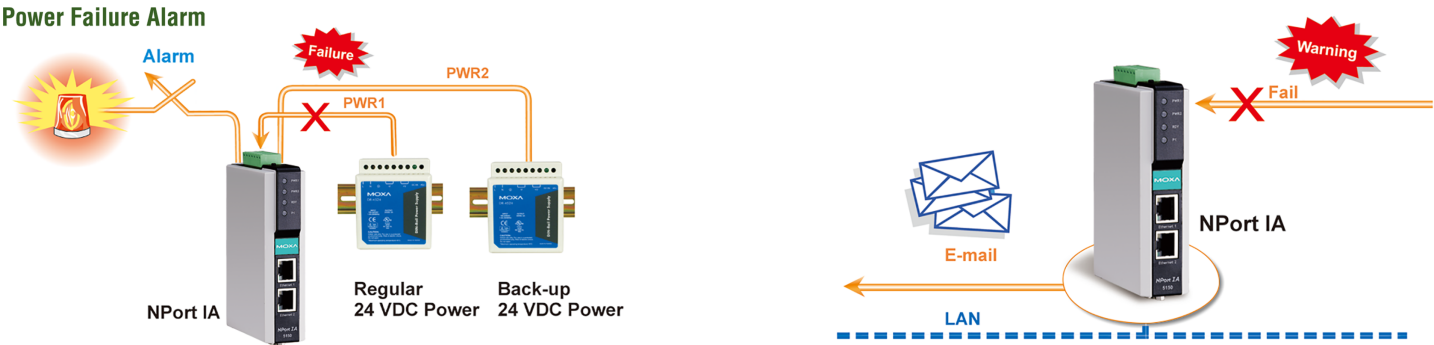
### 備援電源輸入

NPort® IA5000 設備伺服器有兩個電源輸入，可以同時連接到帶電的直流電源。如果一個電源發生故障，另一個電源會自動接通。備援電源輸入有助於確保您的設備伺服器不間斷運作。



### 繼電器輸出警告和電子郵件警報

內建繼電器輸出可在乙太網路連線或電源輸入發生異常，或 DCD、DSR 串列訊號變化時通知管理人員。網頁控制台會指示哪個乙太網路連結或電源輸入發生故障，或哪個串列訊號發生變化。偵測到異常情況時，也可以發出電子郵件警告。這些功能是重要的工具，能夠幫助維修工程師迅速應對緊急情況。



用於乙太網路通訊的光纖

NPort® IA5000 系列包括 100BaseFX 光纖型號，多模機型支援最遠 5 公里的傳輸距離，單模機型支援最遠 40 公里的傳輸距離。光纖非常適合工業應用，因為不受電磁雜訊和干擾的影響。對於有高接地環路電壓的環境，光纖提供最佳的隔離保護，而且由於不存在產生火花的危險，光纖比銅線更適合在危險環境中使用。

工業級認證

為了確保在工業環境中安全可靠地運作，NPort® IA5000 設備伺服器獲得各種工業認證，包括 IP30 防護等級、工業控制設備的 UL 508 安全認證，以及危險場所的防爆認證。認證包括 UL/cUL Class 1 Division 2 Groups A、B、C、D，以及 ATEX Class 1 Zone 2 和 IECEx Zone 2。

規格

Ethernet Interface

|                                            |                                                                    |
|--------------------------------------------|--------------------------------------------------------------------|
| 10/100BaseT(X) Ports (RJ45 connector)      | 2 (1 IP, Ethernet cascade)                                         |
| Magnetic Isolation Protection              | 1.5 kV (built-in)                                                  |
| 100BaseFX Ports (multi-mode SC connector)  | NPort IA-5150/5150I-M-SC models: 1<br>NPort IA-5150-M-ST models: 1 |
| 100BaseFX Ports (single-mode SC connector) | NPort IA-5150/5150I-S-SC models: 1                                 |

Optical Fiber

| Fiber Cable Type |                         | 100BaseFX    |                           |              |
|------------------|-------------------------|--------------|---------------------------|--------------|
|                  |                         | Multi-Mode   |                           | Single-Mode  |
|                  |                         | OM1          | 50/125 μm<br>800 MHz x km | G.652        |
| Typical Distance |                         | 4 km         | 5 km                      | 40 km        |
| Wavelength       | Typical (nm)            | 1300         |                           | 1310         |
|                  | TX Range (nm)           | 1260 to 1360 |                           | 1280 to 1340 |
|                  | RX Range (nm)           | 1100 to 1600 |                           | 1100 to 1600 |
| Optical Power    | TX Range (dBm)          | -10 to -20   |                           | 0 to -5      |
|                  | RX Range (dBm)          | -3 to -32    |                           | -3 to -34    |
|                  | Link Budget (dB)        | 12           |                           | 29           |
|                  | Dispersion Penalty (dB) | 3            |                           | 1            |

Note: When connecting a single-mode fiber transceiver, we recommend using an attenuator to prevent damage caused by excessive optical power.  
Note: Compute the “typical distance” of a specific fiber transceiver as follows: Link budget (dB) > dispersion penalty (dB) + total link loss (dB).

## Ethernet Software Features

|                             |                                                                                                                                                                                                 |
|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Configuration Options       | Web Console (HTTP)<br>Windows Utility<br>Telnet Console<br>Serial Console                                                                                                                       |
| Management                  | DHCP Client<br>IPv4<br>SMTP<br>SNMPv1<br>Telnet<br>ARP<br>BOOTP<br>DNS<br>HTTP<br>TCP/IP<br>UDP<br>ICMP<br>Rtelnet                                                                              |
| Windows Real COM Drivers    | Windows 11, 10, 8.1, 8, 7, Vista, XP, ME, 98 and 95<br>Windows Server 2022, 2019, 2016, 2012 R2, 2012, 2008 R2, 2008, 2003, 2000 and NT<br>Windows Embedded CE 5.0 and 6.0, Windows XP Embedded |
| Linux Real TTY Drivers      | Kernel versions: 6.x, 5.x, 4.x, 3.x, 2.6.x, and 2.4.x                                                                                                                                           |
| Fixed TTY Drivers           | macOS versions: 14, 13, 12, 11, and 10.1x<br>SCO UNIX, SCO OpenServer, UnixWare 7, QNX 4.25, QNX 6, Solaris 10, FreeBSD, AIX 5.x, HP-UX 11i, Mac OS X                                           |
| Arm®-based Platform Support | Windows 11<br>Linux Kernel 6.x, 5.x, and 4.x<br>macOS 14, 13, 12, and 11                                                                                                                        |
| Virtual Machine             | VMWare ESXi (Windows 11/10)<br>VMware Fusion (Windows on macOS 14, 13, 12, 11, and 10.1x)<br>Parallels Desktop (Windows on macOS 14, 13, 12, 11, and 10.1x)                                     |
| Android API                 | Android 3.1.x and later                                                                                                                                                                         |
| Time Management             | SNTP                                                                                                                                                                                            |
| MIB                         | RFC1213, RFC1317                                                                                                                                                                                |

## Security Functions

|                |                                |
|----------------|--------------------------------|
| Authentication | Local database (password only) |
|----------------|--------------------------------|

## Serial Interface

|                  |                                                                                                                                              |
|------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| Connector        | NPort IA-5150/5150I models: DB9 male for RS-232 and terminal block for RS-422/485<br>NPort IA-5250/5250I models: DB9 male for RS-232/422/485 |
| No. of Ports     | NPort IA-5150/5150I models: 1<br>NPort IA-5250/5250I models: 2                                                                               |
| Serial Standards | RS-232<br>RS-422<br>RS-485                                                                                                                   |
| Baudrate         | Supports standard baudrates (unit=bps): 110, 134, 150, 300, 600, 1200, 1800, 2400, 4800, 7200, 9600, 19200, 38400, 57600, 115200, 230400     |
| Data Bits        | 5, 6, 7, 8                                                                                                                                   |
| Parity           | None, Even, Odd, Space, Mark                                                                                                                 |
| Stop Bits        | 1, 1.5, 2                                                                                                                                    |
| Flow Control     | RTS/CTS (RS-232 only)<br>DTR/DSR (RS-232 only)                                                                                               |

|                                   |                                         |
|-----------------------------------|-----------------------------------------|
|                                   | XON/XOFF                                |
| Terminator for RS-485             | 120 ohms                                |
| Pull High/Low Resistor for RS-485 | 1 kilo-ohm, 150 kilo-ohms               |
| Isolation                         | I models: 2 kV                          |
| RS-485 Data Direction Control     | ADDC (automatic data direction control) |

### Serial Signals

|           |                                        |
|-----------|----------------------------------------|
| RS-232    | TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND |
| RS-422    | Tx+, Tx-, Rx+, Rx-, GND                |
| RS-485-4w | Tx+, Tx-, Rx+, Rx-, GND                |
| RS-485-2w | Data+, Data-, GND                      |

### Power Parameters

|                     |                                                                                                                                                                                                                                                                                                        |
|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Input Voltage       | 12 to 48 VDC                                                                                                                                                                                                                                                                                           |
| Input Current       | NPort IA-5150/IA-5150-T/IA-5250/IA-5250-T: 435 mA @ 12 VDC<br>NPort IA-5150I/IA-5150I-T/IA-5150-S-SC/IA-5150-S-SC-T/IA-5150I-M-SC/IA-5150I-M-SC-T/IA-5150I-S-SC/IA-5150I-S-SC-T: 555 mA @ 12 VDC<br>NPort IA-5250I/IA-5250I-T/IA-5150-M-SC/IA-5150-M-SC-T/IA-5150-M-ST/IA-5150-M-ST-T: 510 mA @ 12 VDC |
| No. of Power Inputs | 2                                                                                                                                                                                                                                                                                                      |
| Power Connector     | Terminal block                                                                                                                                                                                                                                                                                         |

### Relays

|                        |                              |
|------------------------|------------------------------|
| Contact Current Rating | Resistive load: 1 A @ 30 VDC |
|------------------------|------------------------------|

### Physical Characteristics

|              |                                                                              |
|--------------|------------------------------------------------------------------------------|
| Housing      | Plastic                                                                      |
| IP Rating    | IP30                                                                         |
| Dimensions   | 29 x 89.2 x 118.5 mm (0.82 x 3.51 x 4.57 in)                                 |
| Weight       | NPort IA-5150/5150I: 360 g (0.79 lb)<br>NPort IA-5250/5250I: 380 g (0.84 lb) |
| Installation | DIN-rail mounting                                                            |

### Environmental Limits

|                                        |                                                                                           |
|----------------------------------------|-------------------------------------------------------------------------------------------|
| Operating Temperature                  | Standard models: 0 to 60°C (32 to 140°F)<br>Wide Temp. models: -40 to 75°C (-40 to 167°F) |
| Storage Temperature (package included) | -40 to 85°C (-40 to 167°F)                                                                |
| Ambient Relative Humidity              | 5 to 95% (non-condensing)                                                                 |

### Standards and Certifications

|     |                                                                                                                                                                                            |
|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EMC | EN 55032/35                                                                                                                                                                                |
| EMI | CISPR 32, FCC Part 15B Class A                                                                                                                                                             |
| EMS | IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV<br>IEC 61000-4-3 RS: 80 MHz to 1 GHz: 10 V/m<br>IEC 61000-4-4 EFT: Power: 4 kV; Signal: 1 kV<br>IEC 61000-4-5 Surge: Power: 2 kV; Signal: 2 kV |

|                     |                                                                |
|---------------------|----------------------------------------------------------------|
|                     | IEC 61000-4-6 CS: 10 V<br>IEC 61000-4-8 PFMF<br>IEC 61000-4-11 |
| Safety              | IEC 60950-1<br>EN 60950-1<br>EN 62368-1<br>UL 508              |
| Maritime            | DNV                                                            |
| Hazardous Locations | ATEX<br>Class I Division 2<br>IECEX                            |
| Freefall            | IEC 60068-2-32                                                 |
| Shock               | IEC 60068-2-27                                                 |
| Vibration           | IEC 60068-2-6<br>IEC 60068-2-64                                |

#### Declaration

|               |                   |
|---------------|-------------------|
| Green Product | RoHS, CRoHS, WEEE |
|---------------|-------------------|

#### MTBF

|           |                                                                                                                                                                                                                                          |
|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Time      | NPort IA-5150/IA-5150I models: 1,349,710 hrs<br>NPort IA-5150-M-SC/M-ST/S-SC models: 1,175,887 hrs<br>NPort IA-5150I-M-SC models: 768,343 hrs<br>NPort IA-5150I-S-SC models: 763,707 hrs<br>NPort IA-5250/IA-5250I models: 1,236,384 hrs |
| Standards | Telcordia (Bellcore) Standard TR/SR                                                                                                                                                                                                      |

#### Warranty

|                 |                                                                            |
|-----------------|----------------------------------------------------------------------------|
| Warranty Period | 5 years                                                                    |
| Details         | See <a href="http://www.moxa.com/tw/warranty">www.moxa.com/tw/warranty</a> |

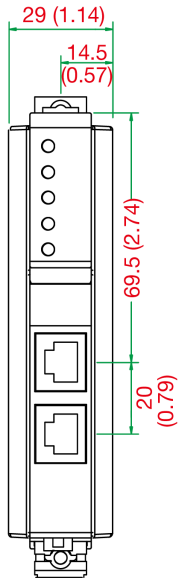
#### Package Contents

|               |                                                   |
|---------------|---------------------------------------------------|
| Device        | 1 x NPort IA-5000 Series device server            |
| Documentation | 1 x quick installation guide<br>1 x warranty card |

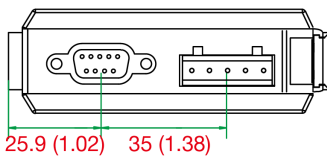
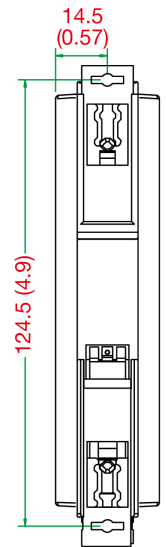
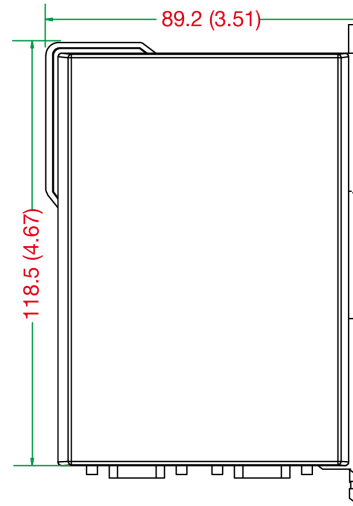
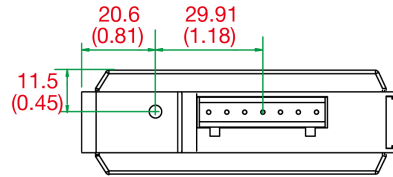
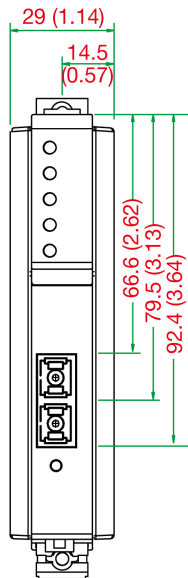
# 尺寸

單位：公釐（英吋）

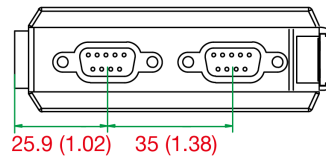
NPort IA-5150  
NPort IA-5150I  
NPort IA-5250  
NPort IA-5250I



NPort IA-5150-M-SC  
NPort IA-5150-S-SC  
NPort IA-5150I-M-SC  
NPort IA-5150I-S-SC  
NPort IA-5150-M-ST



NPort IA-5150  
NPort IA-5150I  
NPort IA-5150-M-SC  
NPort IA-5150-S-SC  
NPort IA-5150I-S-SC  
NPort IA-5150I-M-SC  
NPort IA-5150-M-ST



NPort IA-5250  
NPort IA-5250I

## 訂購資訊

| Model Name            | No. of Ethernet Ports | Ethernet Port Connector | Operating Temp. | No. of Serial Ports | Serial Isolation | Certification: Hazardous Locations |
|-----------------------|-----------------------|-------------------------|-----------------|---------------------|------------------|------------------------------------|
| NPort IA-5150         | 2                     | RJ45                    | 0 to 55°C       | 1                   | –                | ATEX, C1D2, IECEx                  |
| NPort IA-5150-T       | 2                     | RJ45                    | -40 to 75°C     | 1                   | –                | ATEX, C1D2, IECEx                  |
| NPort IA-5150I        | 2                     | RJ45                    | 0 to 55°C       | 1                   | 2 kV             | ATEX, C1D2, IECEx                  |
| NPort IA-5150I-T      | 2                     | RJ45                    | -40 to 75°C     | 1                   | 2 kV             | ATEX, C1D2, IECEx                  |
| NPort IA-5150-M-SC    | 1                     | Multi-Mode SC           | 0 to 55°C       | 1                   | –                | ATEX, C1D2, IECEx                  |
| NPort IA-5150-M-SC-T  | 1                     | Multi-Mode SC           | -40 to 75°C     | 1                   | –                | ATEX, C1D2, IECEx                  |
| NPort IA-5150I-M-SC   | 1                     | Multi-Mode SC           | 0 to 55°C       | 1                   | 2 kV             | ATEX, C1D2, IECEx                  |
| NPort IA-5150I-M-SC-T | 1                     | Multi-Mode SC           | -40 to 75°C     | 1                   | 2 kV             | ATEX, C1D2, IECEx                  |
| NPort IA-5150-S-SC    | 1                     | Single-mode SC          | 0 to 55°C       | 1                   | –                | ATEX, C1D2, IECEx                  |

| Model Name            | No. of Ethernet Ports | Ethernet Port Connector | Operating Temp. | No. of Serial Ports | Serial Isolation | Certification: Hazardous Locations |
|-----------------------|-----------------------|-------------------------|-----------------|---------------------|------------------|------------------------------------|
| NPort IA-5150-S-SC-T  | 1                     | Single-mode SC          | -40 to 75°C     | 1                   | –                | ATEX, C1D2, IECEx                  |
| NPort IA-5150I-S-SC   | 1                     | Single-mode SC          | 0 to 55°C       | 1                   | 2 kV             | ATEX, C1D2, IECEx                  |
| NPort IA-5150I-S-SC-T | 1                     | Single-mode SC          | -40 to 75°C     | 1                   | 2 kV             | ATEX, C1D2, IECEx                  |
| NPort IA-5150-M-ST    | 1                     | Multi-Mode ST           | 0 to 55°C       | 1                   | –                | ATEX, C1D2, IECEx                  |
| NPort IA-5150-M-ST-T  | 1                     | Multi-Mode ST           | -40 to 75°C     | 1                   | –                | ATEX, C1D2, IECEx                  |
| NPort IA-5250         | 2                     | RJ45                    | 0 to 55°C       | 2                   | –                | ATEX, C1D2, IECEx                  |
| NPort IA-5250-T       | 2                     | RJ45                    | -40 to 75°C     | 2                   | –                | ATEX, C1D2, IECEx                  |
| NPort IA-5250I        | 2                     | RJ45                    | 0 to 55°C       | 2                   | 2 kV             | ATEX, C1D2, IECEx                  |
| NPort IA-5250I-T      | 2                     | RJ45                    | -40 to 75°C     | 2                   | 2 kV             | ATEX, C1D2, IECEx                  |

### 配件（選購）

#### Cables

|                 |                                                            |
|-----------------|------------------------------------------------------------|
| CBL-F9M9-150    | DB9 female to DB9 male serial cable, 1.5 m                 |
| CBL-F9M9-20     | DB9 female to DB9 male serial cable, 20 cm                 |
| CBL-RJ458P-100  | 8-pin RJ45 CAT5 Ethernet cable, 1 m                        |
| CBL-RJ45SF9-150 | 8-pin RJ45 to DB9 female serial cable with shielding, 1.5m |

#### Connectors

|                 |                                        |
|-----------------|----------------------------------------|
| ADP-RJ458P-DB9F | DB9 female to RJ45 connector           |
| Mini DB9F-to-TB | DB9 female to terminal block connector |

© Moxa Inc. 版權所有。2026 年 5 月 7 日更新。

未經 Moxa Inc. 明確書面許可，不得以任何方式複製或使用本文件及其任何部分。產品規格如有變更，恕不另行通知。請至本公司官網了解最新的產品資訊。